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Application No. 10/798,531

Client Reference No. N0185US

Amendments to the Claims:

1. (Currently Amended) A computer-game system comprising:
 - a map database containing data that represent roads in a real-world geographic locale, the data including navigation-related attributes, including turn restriction content, for real-world navigation on the roads in the real-world geographic locale;
 - a user interface;
 - a game engine program configured for running on a computer platform and for presenting a computer game to a user via the user interface; and
 - an application programming interface program configured for running on the computer platform, for accepting requests for data from the game engine program, for accessing the data from the map database, and for providing the data in a suitable format to the game engine program;
 - wherein the map database, the user interface, the game engine program, and the application programming interface program are stored on at least one computer-readable medium, and
 - wherein a computer game play scenario based on the data is displayed on the user interface, wherein the computer game play scenario corresponds to a virtual position for display on the user interface in which the virtual position is independent of the user's actual physical location, and wherein individual road segment records are accessed from the map database during game play of the computer game to provide the displayed computer game play scenario.
2. (Previously Presented) The computer-game system of claim 1 further comprising:
 - a 3D function configured for converting geographic data from the map database to a perspective view for display in the computer game.
3. (Previously Presented) The computer-game system of claim 1 further comprising:

Application No. 10/798,531Client Reference No. N0185US

a smoothing function configured for determining a curve through data points used in the map database to represent a linearly extending feature, wherein the curve is used for display of the linearly extending feature in the computer game.

4. (Previously Presented) The computer-game system of claim 1 further comprising:
 - an integration function configured for combining road model data with data that represent roads from the map database to provide a realistic visual appearance of road-related things.
5. (Previously Presented) The computer-game system of claim 4 wherein the road-related things include at least one selected from the group consisting of: road colors, road pavement, lane stripes, curbs, sidewalks, signs, lampposts, lane dividers, traffic signals, speed bumps, and crosswalks.
6. (Previously Presented) The computer-game system of claim 1 further comprising:
 - an integration function configured for combining 3D model data with data that represent roads from the map database to provide a realistic visual representation of polygon shaped features in the geographic locale.
7. (Previously Presented) The computer-game system of claim 1 further comprising:
 - an integration function configured for combining 3D model data with data that represent roads from the map database to provide a realistic visual representation of cityscape and landscape features in the geographic locale.
8. (Previously Presented) The computer-game system of claim 1 further comprising:
 - an integration function configured for combining 3D model data with data that represent roads from the map database to provide a realistic visual

Application No. 10/798,531Client Reference No. N0185US

representation of one of the group consisting of: buildings, fences, trees, shrubbery, lawns, fences, and clouds in the geographic locale.

9. (Previously Presented) The computer-game system of claim 1 wherein the application programming interface program is further configured for providing for spatial queries of data from the map database.
10. (Previously Presented) The computer-game system of claim 1 further comprising:
 - a game application shell that includes basic logic, rules, strategy, and characters for a type of computer game, wherein the game application shell is configured for access by the game engine program.
11. (Currently Amended) The computer-game system of claim 10 wherein the computer game is of a type selected from a group consisting of: a road rally game, a police chase game~~[[,]] a location quiz game~~, a "bot" fighter game, a flight simulator game, a "first-person-shooter" game, an auto theft game, and an urban development simulator game.
12. (Previously Presented) The computer-game system of claim 1 wherein the game engine program is configured for performing specific tasks and for operating on an as-needed basis during game play.
13. (Previously Presented) The computer-game system of claim 1 wherein the game engine program comprises at least one selected from the group consisting of: audio engines, logic engines, rules engines, animation engines, graphics engines, and user interface engines.
14. (Currently Amended) A method of operating a computer game that runs on a computer platform, the method comprising:
 - using an application programming interface program that runs on the computer platform to accept requests for geographic data from a game engine program;

Application No. 10/798 531Client Reference No. N0185US

using the application programming interface program to access the geographic data from a map database stored on data storage hardware, the geographic data derived from a database suitable for vehicle navigation on roads in a real-world geographic locale;

using the application programming interface program to provide, by a computer processor, the geographic data from the map database in a suitable format to the game engine program; and

presenting, by the computer processor, a game play scenario, based on the geographic data, on a user interface of the computer platform to a user, wherein the game play scenario corresponds to a virtual position for display on the user interface in which the virtual position is independent of the user's actual physical location, and wherein individual road segment records are accessed from the map database during game play of the computer game to provide the displayed game play scenario.

15. (Previously Presented) The method of Claim 14 wherein presenting the game play scenario comprises displaying geographic features represented by the data on a display of the computer platform as part of the game play scenario of the computer game.
16. (Previously Presented) The method of Claim 14 further comprising:
converting the geographic data from the map database to a perspective view for display by the computer platform as part of the game play scenario of the computer game.
17. (Previously Presented) The method of Claim 14 further comprising:
determining a curve through data points used in the map database to represent linearly extending features, wherein the curve is used for display of at least one of the linearly extending features by the computer platform as part of the game play scenario of the computer game.
18. (Previously Presented) The method of Claim 14 further comprising:

Application No. 10/798,531Client Reference No. N0185US

combining road model data with data that represent roads from the map database to provide a realistic visual appearance of road-related things by the computer platform as part of the game play scenario of the computer game.

19. (Previously Presented) The method of Claim 18 wherein the road-related things include at least one selected from a group consisting of: road colors, road pavement, lane stripes, curbs, sidewalks, signs, lampposts, lane dividers, traffic signals, speed bumps, and crosswalks.
20. (Previously Presented) The method of Claim 14 further comprising:
combining 3D model data with data that represent roads from the map database to provide a realistic visual representation of polygon shaped features in the geographic locale by the computer platform as part of the game play scenario of the computer game.
21. (Previously Presented) The method of Claim 14 further comprising:
combining 3D model data with data that represent roads from the map database to provide a realistic visual representation of cityscape and landscape features in the geographic locale by the computer platform as part of the game play scenario of the computer game.
22. (Previously Presented) The method of Claim 14 further comprising:
combining 3D model data with data that represent roads from the map database to provide a realistic visual representation of one of a group consisting of: buildings, fences, trees, shrubbery, lawns, fences, and clouds in the geographic locale by the computer platform as part of the game play scenario of the computer game.
23. (Previously Presented) The method of Claim 14 wherein the application programming interface program provides for spatial queries of data from the map database.

Application No. 10/798,531Client Reference No. N0185US

24. (Previously Presented) The method of Claim 14 further comprising:
using the game engine program to access a game application shell that includes basic logic, rules, strategy, and characters for a type of computer game.
25. (Currently Amended) The method of Claim 24 wherein the type of computer game is selected from a group consisting of: a road rally game, a police chase game, ~~a location quiz game~~[[,]] a "bot" fighter game, a flight simulator game, a "first-person-shooter" game, and an auto theft game[[,]] ~~and an urban development simulator game.~~
26. (Previously Presented) The method of Claim 14 further comprising:
using the game engine program to perform specific tasks and operate on an as-needed basis during the game play scenario of the computer game.
27. (Previously Presented) The method of Claim 14 wherein the game engine program comprises at least one selected from a group consisting of: audio engines, logic engines, rules engines, animation engines, graphics engines, and user interface engines.
28. (Previously Presented) The computer-game system of Claim 1, wherein the real-world navigation includes vehicle route calculation and vehicle route guidance corresponding to the roads in the real-world geographic locale.
29. (Currently Amended) A method of operating a computer game that runs on a computer platform, the method comprising:
using an application programming interface that runs on the computer platform to accept requests for geographic data from a game engine program;
using the application programming interface to access the geographic data from a map database stored on data storage hardware, the geographic data including a plurality of road segment records that represent portions of roads in a real-world geographic locale, wherein each of the road segment

Application No. 10/798,531Client Reference No. N0185US

records corresponds to navigation-related attribute data that support vehicle navigation-related functions for real-world navigation on the roads in the real-world geographic locale, the navigation-related attribute data including

- (i) geographic coordinates,
- (ii) a street name,
- (iii) an address range,
- (iv) a turn restriction, and
- (v) road shape;

using the application programming interface to provide, by a computer processor, the geographic data from the map database in a suitable format to the game engine program; and

presenting, by the computer processor, a game play scenario, based on the geographic data, on a user interface of the computer platform to a user for game play.

wherein the game play scenario corresponds to a virtual position for display on the user interface in which the virtual position is independent of the user's actual physical location, wherein the game play includes engaging characters within the game play scenario, and wherein individual road segment records are accessed from the map database during the game play of the computer game to provide the displayed game play scenario.

- 30. (Previously Presented) The method of Claim 29, wherein the application programming interface requests data representing all road segment records within a selected area from the map database as a function of a spatial query, the spatial query defining the selected area.
- 31. (Previously Presented) The method of Claim 30, wherein the selected area is defined by a longitude and latitude point and a radial distance from the longitude and latitude point.
- 32. (Previously Presented) The method of Claim 30, wherein the selected area is defined by a rectangular area having specified geographic boundaries.